UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/495,250	01/31/2000	Jin Soo Lee	CIT/K-108	4616

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EXAMINER
WOO, ISAAC M

ART UNIT	PAPER NUMBER
2172	

DATE MAILED: 11/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _19 August 2002_ .

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-2,4-11,13-14 and 21-26_ is/are pending in the application.

     4a) Of the above claim(s) _3,12 and 15-20_ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-2, 4-11, 13-14 and 21-26_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

     If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☒ All b)☐ Some * c)☐ None of:

         1.☒ Certified copies of the priority documents have been received.

         2.☐ Certified copies of the priority documents have been received in Application No. _____ .

         3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

     a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)   4)☒ Interview Summary (PTO-413) Paper No(s). _6_ .

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)   5)☐ Notice of Informal Patent Application (PTO-152)

3)☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _5_ .   6)☐ Other: _____ .

DETAILED ACTION

1.   This action is in response to Applicant's amendments on August 19, 2002 have

been considered but are deemed moot in view of new ground of rejections below. The

applicant amended claims 1-2, 4-10 and 13-14, and added new claims 21-26 and

canceled 3, 12 and 15-20. The pending claims are 1-2, 4-11, 13-14 and 21-26.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 1-2, 4, 7, and 13-14 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Jain et al (U.S. Patent No. 5,893,095, hereinafter, "Jain").

With respect to claim 1, Jain discloses the method of searching multimedia data,

(image, col. 6, lines 25-43), receiving at least one reference multimedia data (108,

visual query input, FIG. 1A) selected by a user (102, FIG. 1A), wherein the reference

multimedia data represents a specified multimedia data to be searched, see (FIG. 1A,

col. 9, lines 10-67 to col. 10, lines 1-10, FIG. 5A, col. 11, lines 53-67 to col. 12, lines 1-5);

measuring the similarities of features (feature vector, FIG. 5A) included in the plurality of reference multimedia data, see (FIG. 5A, col. 12, lines 23-60);

determining and updating weights of each feature (query optimization) according to the measured similarities of the features, see (col. 8, lines 35-55, col. 17, lines 1-51, col. 19, lines 29-67 to col. 20, lines 1-14);

searching for the specified multimedia data utilizing features and feature elements included in the plurality of reference multimedia data, in consideration of the updated weights of features and feature elements, see (FIG.1A, FIG. 11, FIG. 5B, col. 9, lines 9-26, col. 12, lines 54-67 to col. 13, lines 1-35, col. 22, lines 43-67 to col. 23, lines 1-65). Jain discloses measuring the similarities of the feature in each feature included in the plurality of reference multimedia data, see (FIG. 5A, col. 12, lines 23-60);

determining weights of each feature elements in respective features according to the measured similarities of the feature, see (col. 8, lines 35-55, col. 17, lines 1-51, col. 19, lines 29-67 to col. 20, lines 1-14). Jain does not explicitly disclose feature elements. However, Jain teaches the primitives are attributes for color, texture, and shape, those are called features of images, see (col. 6, lines 25-43, col. 12, lines 23-53). The color is one of the primitives of query image and global color is one of the features of query image and local color is the feature of elements, see (FIG. 5A, col. 12, lines 6-22). Therefore, it would have been obvious a person having ordinary skill in the art to include feature element into the system of Jain to specify small feature elements from features.

The image comprises features (color, texture, and shape) globally (i.e., entire image, features) and locally (i.e, over small region of image, feature elements) and user can give relative importance of each features to get closer target images that user wants. Thus, it would be useful to use and specify features and feature element to get exact target images from image searching engine.

With respect to claim 2, Jain discloses that searching for the specified multimedia data utilizing a combination of features and feature elements of the respective features included in the at least one reference multimedia data, wherein each feature has a feature weight, and each feature element has a feature element weight, see (col. 12, lines 6-61).

With respect to claim 4, Jain discloses the terminating the search if the user is satisfied with the result of the search,

receiving at least one other reference multimedia data selected from among the resultant images of the search, wherein the at least one other reference multimedia data is determined to be similar to the specified multimedia data, see (FIG. 4, col. 11, lines 35-53);

measuring the similarities of features included in the plurality of reference multimedia data and the at least one other reference multimedia data, see (FIG. 5A, col. 12, lines 23-60);

determining and updating weights of each feature according to the measured

similarities of the features, see (col. 8, lines 35-55, col. 17, lines 1-51, col. 19, lines 29-

67 to col. 20, lines 1-14);

measuring the similarities of the feature elements in each feature included in the

plurality of reference multimedia data and the at least one other reference multimedia

data, see (col. 8, lines 35-55, col. 17, lines 1-51, col. 19, lines 29-67 to col. 20, lines 1-

14);

determining and updating weights of each feature elements in respective

features according to the measured similarities of the feature elements, see (col. 8, lines

35-55, col. 17, lines 1-51, col. 19, lines 29-67 to col. 20, lines 1-14); and

re-searching for the specified multimedia data utilizing features and feature

elements included in the plurality of reference multimedia data and in the at least one

other reference multimedia data, in consideration of the updated features weights and

feature elements weights, see (FIG.1A, FIG. 11, FIG. 5B, col. 9, lines 9-26, col. 12, lines

54-67 to col. 13, lines 1-35, col. 22, lines 43-67 to col. 23, lines 1-65).

With respect to claim 7, Jain discloses that one reference multimedia data is

selected by the user, and comprising searching for the specified multimedia data

utilizing features and feature elements of the respective features included in the

reference multimedia data, wherein each features has a feature weight and each

feature element has a feature element weight, see (col. 12, lines 6-67 to col. 13, lines 1-

35).

With respect to claim 13, Jian discloses the method of constructing a multimedia

data, incorporating a feature information including features of an image, see (FIG.1A,

FIG. 5A, col. 9, lines 10-67 to col. 1-55,col. 11, lines 54-67 to col. 12, lines 1-60); and

incorporating a weight information including weight information of the features,

see (FIG.1A, FIG. 5A, col. 9, lines 10-67 to col. 1-55,col. 11, lines 54-67 to col. 12, lines

1-60). Jain does not explicitly disclose feature elements. However, Jain teaches the

primitives are attributes for color, texture, and shape, those are called features of

images, see (col. 6, lines 25-43, col. 12, lines 23-53). The color is one of the primitives

of query image and global color is one of the features of query image and local color is

the feature of elements, see (FIG. 5A, col. 12, lines 6-22). Therefore, it would have been

obvious a person having ordinary skill in the art to include feature element into the

system of Jain to specify small feature elements from features. The image comprises

features (color, texture, and shape) globally (i.e., entire image, features) and locally (i.e,

over small region of image, feature elements) and user can give relative importance of

each features to get closer target images that user wants. Thus, it would be useful to

use and specify features and feature element to get exact target images from image

searching engine.

With respect to claim 14, Jian discloses that the feature and the feature

elements are represented by an image characteristic structure, global information which

represents a feature of a whole image, see (col. 11, lines 53-67 to col. 12, lines 1-61); and

spatial information which represents a feature of an image region, wherein the image characteristic structure further comprises a weight information which represents the importance of the global information and the spatial information, see (col. 11, lines 53-67 to col. 12, lines 1-61).

4.   Claims 5-6, 8-10 and 21-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et al (U.S. Patent No. 5,893,095, hereinafter, "Jain") in view of Ishimaru (U.S. Patent No. 5,982,931).

With respect to claim 5, Jain discloses, receiving at least one multimedia data selected from among the resultant images of the search, wherein the at least one multimedia data is determined to be to the specified multimedia data, see (FIG. 4, col. 11, lines 36-52);

measuring the features included in the plurality of reference multimedia data and the at least one multimedia data, see (FIG. 5A, col. 12, lines 23-60);

measuring the feature elements in each feature included in the plurality of reference multimedia data and the at least one multimedia data, see (col. 8, lines 35-55, col. 17, lines 1-51, col. 19, lines 29-67 to col. 20, lines 1-14); and

wherein in determining and updating weights of each feature elements in respective features according to the measured the features according to the measured

the feature elements, see (col. 8, lines 35-55, col. 17, lines 1-51, col. 19, lines 29-67 to

col. 20, lines 1-14);

wherein in determining and updating weights of each feature elements in

respective features according to the measured the feature elements, see (col. 8, lines

35-55, col. 17, lines 1-51, col. 19, lines 29-67 to col. 20, lines 1-14); and

wherein in re-searching for the specified multimedia data utilizing features and

feature elements included in the plurality of reference multimedia data, in the at least

one other reference multimedia data and in the at least one data, in consideration of the

updated features weights and feature elements weights, see (FIG.1A, FIG. 11, FIG. 5B,

col. 9, lines 9-26, col. 12, lines 54-67 to col. 13, lines 1-35, col. 22, lines 43-67 to col.

23, lines 1-65). Jain discloses the method for image searching with similarity of

multimedia. Jain does not explicitly disclose the method for image searching with the

dissimilarity of multimedia. However, Ishimaru discloses that the images are compared

and analyzed to determine dissimilarities of images (FIG. 2, col. 3, lines 54-67 to col. 4,

lines 1-67 to col. 5, lines 1-39, abstract). Therefore, it would have been obvious a

person having ordinary skill in the art to include the method to get dissimilarity of

multimedia from Ishimaru for the image searching method of Jain. The image searching

mechanism has many different features to consider when user queries with sample

image to get exact target image that user want, using similar image features and

dissimilar image features. Thus, it would be beneficial to use the similarity and

dissimilarity combined to get exact target images.

Clams 6 and 8-10 are rejected for the reasons set fourth hereinabove for claims

4 and 5. The claim 4 discloses for the method of image re-searching with similarities of

images and the claim 5 discloses the method of images searching with dissimilarities of

images.

With respect to claims 21 and 24, Jain discloses the searching foe a target image

based on search criteria, (FIG. 1A), inputting a first image that is similar to the target

image, see (FIG.1A, FIG. 2, FIG. 5A, FIG. 5B, col. 9, lines 10-67, col. 10, lines 56-67 to

col. 11, lines 1-15, col. 11, lines 53-667 to col. 12, lines 1-67);

correlating the first image and the second image to construct the search criteria,

see (FIG. 4, col. 11, lines 36-53 and col. 12, lines 62-67 to col. 13, lines 1-35, resulted

target images are reused for second searching). Jain does not explicitly disclose the

inputting a second image that is dissimilar to the target image. However, Ishimaru

discloses that dissimilar image is identified, and inputted for searching, see (FIG. 2, col.,

lines 3, lines 53-67 to col. 4, lines 1-65). Therefore, it would have been obvious a

person having ordinary skill in the art to include the method of inputting the second

image that is dissimilar to the target image from Ishimaru into Jain to get the target

image. The image searching mechanism has many different features to consider when

user queries with sample image to get exact target image that user want, using similar

image features and dissimilar image features. Thus, it would be beneficial to use the

similarity and dissimilarity combined to get exact target images.

Claims 22-23 and 25-26 are rejected for the reasons set fourth hereinabove for

claims 1-2, 4 and 5.

5.   Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jain et

al (U.S. Patent No. 5,893,095, hereinafter, "Jain") in view of Taniguchi et al (U.S.

Patent No. 5,619,347, hereinafter, "Taniguchi").

With respect to claim 11, Jain discloses that the feature is color and the feature

element weights are determined, see (FIG. 5A, col. 11, lines 53-67 to col. 12, lines 1-

61). Jain does not explicitly disclose feature elements weights are determined either by

a color histogram with n color elements as the feature elements, or by dividing a

multimedia data into n*m grid regions and utilizing a regional color histogram or a color

representing a grid region as the feature elements. However, Taniguchi discloses that

the color weights are determined by histogram with n*m elements as the feature

elements, see (FIG. 2, col. 10, lines 61-67 to col. 11, lines 1-46, FIG. 5, col. 23, lines 24-

67 to col. 26, lines 1-56, col. 44, lines 14-60). Therefore, it would have been obvious a

person having ordinary skill in the art to include that the method of the feature elements

weights are determined either by a color histogram with n color elements as the feature

elements, or by dividing a multimedia data into n*m grid regions and utilizing a regional

color histogram or a color representing a grid region as the feature elements from

Taniguchi into Jain to get the weights of feature elements of color from histogram. The

histogram is used to get the balances and weights of color features, which is beneficial

to get specific color element's weight for specific image searching.

Conclusion

6.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

Barber et al (U.S. Patent No. 5,751,286) discloses the system for image query

based upon images features such as colors, texture and shape.

Rising, III (U.S. Patent No. 6,445,834) discloses the system for image query and

storage based on a plurality of image features.

7.   Applicant's amendment necessitated the new ground(s) of rejection presented in

this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37

CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of
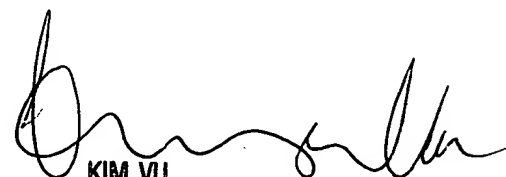
the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isaac M Woo whose telephone number is (703) 305-0081. The examiner can normally be reached on 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Y Vu can be reached on (703) 305-4393. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 308-6606 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

IMW
October 31, 2002

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